

Appendix A
(pending claims)

1. A method for preparing a grain containing starch with increased total dietary fiber content comprising heating a base grain having a total moisture content of from about 20% to about 45% by weight based on the dry weight of the grain, at a temperature of from about 90°C to about 130°C for a period of about 0.5 to 24 hours, under a combination of moisture and temperature conditions such that the starch does not have its granular structure and birefringence completely destroyed and to provide a heat-treated-grain having an increase in total dietary fiber content ("TDF") of at least 10%.
3. The method of Claim 1 wherein the base grain contains a starch having at least 40% by weight amylose content.
4. The method of Claim 1, wherein the temperature is between about 90 °C to about 125 °C.
5. The method of Claim 1 wherein the base grain is corn.
6. The method of Claim 1 wherein the base grain contains a granular starch that has at least 65% by weight amylose content.
7. The method of Claim 1 wherein the base grain is degerminated.
8. The method of Claim 1 wherein the total moisture content of the base grain is from about 20% to about 45% and the temperature is between about 90 °C to about 125 °C.
9. The method of Claim 1 wherein the base grain is obtained from a plant source having an amylose extender genotype, the starch comprising less than 10% amylopectin determined by butanol fractionation/exclusion chromatography measurement.
10. The method of Claim 9 wherein the base grain has a total moisture content of from about 20% to about 35% and the heating is at a temperature of from about 90 to 120°C.
11. A grain made by the method of Claim 1.
12. The grain of Claim 11 having an increase in TDF content of greater than 30%.

13. The grain of Claim 11 having a higher onset temperature than a corresponding untreated grain.
14. The grain of Claim 13 having a higher delta H than a corresponding untreated grain.
15. The grain made by the method of Claim 3 having a higher TDF and RS than a corresponding untreated grain.
16. The grain of Claim 11 wherein the amylose content is between about 50 to about 69% by weight of the starch and having a TDF of at least than 45%.
17. The grain of Claim 11 wherein the amylose content of the starch is between about 70 and about 89% and having a TDF content of at least 58%.
18. The grain of Claim 11 wherein the amylose content of the starch is greater than 90% and having a TDF content of at least 75%.
19. A starch isolated from the heat-treated grain of Claim 11.
20. A food product containing a grain prepared by the method of Claim 1.
21. The food product of Claim 20, wherein the food is selected from the group consisting of cereal, bread, crackers, cookies, cakes, pasta, beverages, fried and coated foods, snacks, dairy products, and cheeses.
22. A method for preparing a grain containing starch with increased total dietary fiber content comprising heating a grain containing starch having at least about 40% by weight amylose, said grain having a total moisture content of from about 8% to about 85% by weight based on the dry weight of the grain, at a temperature of from about 65°C to about 150°C, under a combination of moisture and temperature conditions to provide a heat-treated-grain having an increase in total dietary fiber content ("TDF") of at least 10%.
23. The method of Claim 22, wherein the starch does not have its granular structure completely destroyed.
24. The method of Claim 22 wherein the total moisture content of the base grain is from about 24% to about 55% and the temperature is between about 90 °C to about 125 °C.
25. The method of Claim 22 wherein the base grain is corn.
26. The method of Claim 22 wherein the base grain contains a granular starch that has at least 65% by weight amylose content.

27. The method of Claim 22 wherein the base grain is degemerinated.
28. The method of Claim 22 wherein the total moisture content of the base grain is from about 20% to about 45% and the temperature is between about 90 °C to about 125 °C.
29. The method of Claim 22 wherein the base grain is obtained from a plant source having an amylose extender genotype, the starch comprising less than 10% amylopectin determined by butanol fractionation/exclusion chromatography measurement.
30. The method of Claim 29 wherein the base grain has a total moisture content of from about 20% to about 35% and the heating is at a temperature of from about 90 to 120°C.
31. A grain made by the method of Claim 22.
32. The grain of Claim 31 having an increase in TDF content of greater than 30%.
33. The grain of Claim 31 having a higher onset temperature than a corresponding untreated grain.
34. The grain of Claim 33 having a higher delta H than a corresponding untreated grain.
35. The grain made by the method of Claim 22 having a higher TDF and RS than a corresponding untreated grain.
36. The grain of Claim 31 wherein the amylose content is between about 50 to about 69% by weight of the starch and having a TDF of at least than 45%.
37. The grain of Claim 31 wherein the amylose content of the starch is between about 70 and about 89% and having a TDF content of at least 58%.
38. The grain of Claim 31 wherein the amylose content of the starch is greater than 90% and having a TDF content of at least 75%.
39. A starch isolated from the heat-treated grain of Claim 31.
40. A food product containing a grain prepared by the method of Claim 22.
41. The food product of Claim 40, wherein the food is selected from the group consisting of cereal, bread, crackers, cookies, cakes, pasta, beverages, fried and coated foods, snacks, dairy products, and cheeses.